



# **Macroeconomic Determinants of Domestic Investment in Nigeria: Comparing Theory and Empirics**

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## **Authors' contributions**

*This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.*

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## **ABSTRACT**

This article examined the macroeconomic determinants of domestic investments in Nigeria in the light of mainstream investment theories using annual data from 1982 to 2020. We adopt an Autoregressive Distributed Lag (ARDL) model to examine the long run and short run relationships between the dependent and the explanatory variables. From the reviewed economic theories, we identified interest rate, output, savings, government expenditure, money supply, stock market performance and inflation as macroeconomic determinants of investment which we used as explanatory variables in our model. The findings of this study shows that government expenditure, money supply and inflation were significant determinants of investment in the short run while all the variables except interest rate were significant determinants of investment only in the long run. Interest rate was not significant as a determinant of investment within the period of study. The findings of this study add credence to most of the various economic theories reviewed. It shows that investment in Nigeria can be significantly driven by policies because the identified macroeconomic determinants of investment in Nigeria are variables that the policy authorities can influence through policy decisions. We recommend among other things, improvement in financial intermediation and the involvement of domestic firms in the execution of government projects.

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## 1. INTRODUCTION

All economic activities involve committing resources with expected economic gains. Private individuals and organizations invest their resources to create new goods and services with the expected monetary and personal gains. These activities boost economic output, reduce unemployment and increase living conditions. In mainstream economic theories, such as the Keynesian theory, investment is one of component of aggregate demand. It is also regarded as the most volatile component, indicating that changes in investment should have a significant impact on economic output. Economic theories and empirical studies have also linked many economic variables to investment, creating a robust base of possible determinants of investment in any economy.

Economic theories shape the way we understand the workings of the economy and consequently, how policies are made. In economic policy research, there is increased interest in how to promote domestic investment because they are usually determined by factors within an economy in which policy decisions is bound to have a great impact on its behavior. Emphasis has therefore been placed on domestic investment as an important engine of growth and development because many literatures provide evidences that domestic investment in Nigeria is more directly related to economic growth [1,2, Oyedokun and Ajose, 2018; [3]. Like other macroeconomic issues, existing economic theories are usually the first point of reference in the process of understanding the determinants of domestic investment while empirical evidence validate or invalidate existing theories.

Given the prominent role of investment in determining aggregate economic outcomes, policy makers are almost in a hurry to identify the significant determinants of investment in Nigeria at any point in time. This is because the performance of the any economy depends to a large extent on how the existing policies will enhance investment and thus boost economic activities. Therefore, the policy authorities are deeply concern about identifying the determinants of domestic investment. Individual economic agents are also concern about investment and are always on the lookout for profitable investment opportunities. Hence, they

also pay close attention to those factors that affect investment decisions.

Although there is a plethora of economic variables theoretically linked to investment, there is need to identify the ones that are relevant to the economy under consideration. Moreover, given the erratic nature of the behavior of economy agents, structural changes in the economy over time, new economic policies and technological progress that permeates the global competitive economy, determinants of investment in a particular economy are bound to change frequently. Hence, there is need to study investment determinants frequently. This study, therefore examine the determinants of domestic investment in Nigeria using the macroeconomic variables identified in economic theory. The outcome of this study allows for a comparison between the postulations of economic theory about the determinants of investment and the actual determinants of investment in Nigeria.

## 2. LITERATURE REVIEW

### 2.1 Theoretical Literature

#### 2.1.1 The keynesian theory of investment

The Keynesian theory of investment could be traced from the Keynesian macroeconomic theory in which investment (I) is identified as a component of aggregate demand alongside consumption(C), government expenditure and net export (Xn). McConnell, Brue and Flynn, [4], he posited that investment depends on the marginal efficiency of capital (MEC) and interest rate. MEC is the rate of profit which an addition of an extra unit of capital goods to economy's stock of capital is expected to yield. Interest rate is the opportunity cost of the invested funds established to be inversely related to investment. Keynes further stressed the volatility of private investment because of uncertainty of return on investment.

Keynesian macroeconomics also linked investment to other macroeconomic variables such as government expenditure, inflation and exchange rate. Government capital expenditure constitutes public domestic investment which is meant to create enabling environment for private investment to thrive. An increase in government expenditure is thus expected to increase

domestic investment. An increase in the general price level (inflation) serves as incentives for producers to increase production to earn higher returns. This establishes inflation as a positive determinant of investment. These theoretical links is often the basis for including these variables as possible determinants of investment in empirical research.

### 2.1.2 The accelerator theory of investment

According to the accelerator principle, change in investment is positively related to change in the national income or output. This means that increase in income will accelerate investment. The accelerator is the numerical value of the relationship between income and investment. When income increases, consumption increases and a greater amount of goods and services would have to be produce to meet demand. This requires an increase in the stock of existing capital. If the required output to be produced is  $Y_t$  and the required capital to output ratio for that level of output is  $\delta$ , the relationship between output and capital stock (K) could be expressed as

$$K_t = \delta Y_t \quad (1)$$

$K_t$  = Capital stock at current period  
 $Y_t$  = aggregate income or output  
 $\delta$  = the capital-output ratio.

From equ (1) the relationship between output and capital stock in the previous period was

$$K_{t-1} = \delta Y_{t-1} \quad (2)$$

From equ (1) and equ (2), the change in capital stock (increase in capital stock) that is required to produce the required change in output (increase in output) would be written as

$$\begin{aligned} K_t - K_{t-1} &= \delta Y_t - \delta Y_{t-1} \\ K_t - K_{t-1} &= \delta(Y_t - Y_{t-1}) \\ \Delta K_t &= \delta \Delta Y_t \end{aligned} \quad (3)$$

Since change in capital stock is the rate of new investment in the economy, equ (3) could be written as

$$\Delta I_t = \delta \Delta Y_t \quad (4)$$

Equ(4) is the accelerator relation which state that investment depends on income or output, identifying aggregate output in the economy as a determinant of aggregate investment.

### 2.1.3 The harrod-domar growth model

The Harrod-Domar model has its roots in Keynesian macroeconomics. It points out that savings which serves as a means of capital formation is needed to bring about new investment and hence economic growth [6]. Here capital is viewed as the most important factor of production. How much capital to be used in production depends on the level of technology [6]. Given the model assumption, the model could be demonstrated mathematically as follows;

Savings (S) is assumed to be a certain proportion(s) of the national income (Y) such that a simple equation could be written as

$$S = sY$$

Net investment (I) is defined as the change in the stock of capital (K) and can be represented by K such that

$$I = \Delta K$$

The model further assumes that the capital stock (K) has a direct relationship with total income (Y) or GDP. This means that an increase in capital stock in the form of new investment will lead to a corresponding increase in the flow of output (Y) or GDP. This relationship is known as the capital output ratio defined as k. It follows that

$$\frac{\Delta K}{Y} = k \text{ or } \frac{K}{\Delta Y} = k$$

$$\Delta K = k \Delta Y$$

Since net savings (S) which is a certain proportion of the national income or output (sY), must be equal to investment it could be written that

$$S = I$$

This could be simplified as:

$$sY = k \Delta Y$$

Dividing through first by Y and then by k we have

$$\frac{\Delta Y}{Y} = \frac{s}{k}$$

$$\frac{\Delta Y}{Y} = \text{Change in output (Y) or GDP}$$

s = Savings ratio

k = the capital output ratio

This shows that growth is jointly determined by savings (s) and the capital output ratio (k). Since savings is the bases for capital formation (new investment), saving is thus identified in this model as a determinant of investment.

#### 2.1.4 Tobin's q theory of investment

Tobin's Q theory of investment emphasizes the connection between investment and the stock market. Tobin estimated Q which is a measure of stock market performance as the ratio of the market value of a firm relative to the replacement cost of capital. He explains that when Q is high, firms will want to produce more assets and fewer assets when Q is low [7]. Firms usually raise money for new investment by selling bonds and equities. People buy more of these financial securities when they expect high gains. During boom, the demand for company shares will increase leading to a rise in the price of shares. Thus, firms can raise a significant amount of capital by selling few during periods of boom shares. Therefore, when the stock market is booming, firms are willing to sell shares to finance investment than when the stock market is low. This theory therefore, indicates that stock market performance is a positive determinant of investment.

#### 2.1.5 The monetarist theory of investment

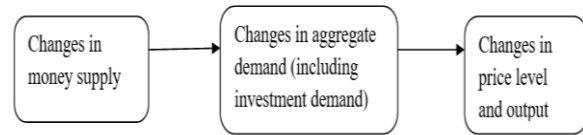
the monetarist theory of investment could be deduced from the monetarist view of the major determinant of economic activities in the economy. Monetarist macroeconomics hold that changes in money supply is the major determinant of economic output [8]. It has its roots from the Fisher's equation of exchange stated as follows:

$$MV = PQ$$

Where

- M = Money Supply
- V = Velocity of Money
- P = Price Level
- Q = Level of Real Output

If "V" which is the rate at which money changes hands is constant, changes in "M" will cause changes in "P" and "Q" They argue that changes in the quantity of money will work through to cause changes in economic output. This process could be illustrated as follows:



Thus, from the monetarist perspective, changes in investment, output and prices are as a result of changes in money. This identified money supply as an important determinant of investment.

## 2.2 Empirical Literature

Donwa and Agbontaen [9] studied the trend of the determinants of investment in Nigeria using annual data from 1970 to 2008 using autoregressive Distributed Lag (ARDL) model. They included market size, macroeconomic instability, political instability, exchange rate and credit performance as regressors. Their findings shows that lag investment, macroeconomic and political instability are significant determinants of investment.

Bakare [10] studied the determinants of private investment in Nigeria using annual data from 1978 to 2008. He modeled variables in an error correction model. The findings of the study primarily identified political instability which was captured as a dummy variable and infrastructure as the significant determinants of investments in Nigeria. He recommended reduction in infrastructural deficit as way to stimulate investment in Nigeria.

Atoyebi et al. [11] studied the determinants of domestic private investment in Nigeria using annual data from 1970 to 2010. They applied Johansson cointegration, ordinary least squares regression and causality test to analyze data. Interest rate, domestic credit to the private sector, deposit ratio, external reserve, gross domestic product, nominal exchange rate and public investment were identified as possible determinant of private domestic investment and were used as explanatory variables in the model. Their findings show that political instability represented as a dummy variable was significant in explaining changes in private domestic investment.

Ayeni [12] examined the macroeconomic determinants of private sector investment in Nigeria using annual data from 1979 to 2012 in an Autoregressive Distributed Lag (ARDL) model. They identified real interest rate, real GDP, real exchange rate and credit to private sector as possible determinants of private

investment and used them as regressors in the model. The findings show that the explanatory variables have negative long run impact on private investment in Nigeria.

Agwu [13] examined the determinants of investment in Nigeria using annual data from 1981 to 2013 in an Autoregressive Distributed Lag (ARDL) model using interest rate, inflation exchange rate, government size and output as regressors. The findings show that government size and interest rate are the major determinants of domestic investment in Nigeria. He recommends policy consistency and interest rate reduction as measures that will enhance the growth of investment in Nigeria.

Mgbemena, Nwogwugwu and Kalu [14] studied the determinants of investment in the Nigeria's manufacturing sub sector using annual data from 1975 to 2013 in an error correction model (ECM). In the study, interest rate, output, political disturbance and public investment are identified as possible determinants of investment in the sub sector. The result shows that interest rate, exchange rate and public investment are the main determinants of investment in this subsector.

Ojong, Ogar and Arikpo [15] studied the determinants of investment in Nigeria from 1983 to 2015 adopting autoregressive Distributed Lag (ARDL) econometric model. The identified explanatory variables used as regressors were government expenditure, economic growth, interest rate, inflation and credit to private sector. The findings of the study show that only government expenditure is a significant determinant of domestic investment in the short run. They recommend increase government expenditure on infrastructure and social amenities and bridging the gap between lending and deposit rates as measure that will promote investment in Nigeria. Duruechi and Ojiegbe [16] had reached similar conclusions using interest rate, government expenditure, inflation and exchange rate as explanatory variables in an error correction model (ECM) and a data from 1990 to 2013.

The review of empirical studies shows that the study of the determinants of investment in Nigeria has been conducted in different periods with many variables identified as possible determinants of investment, some of which have also been identified in the various theories reviewed in this study. The studies shows that the significant determinants of investment in

Nigeria varies and this may not be unconnected with the different data spans used, the econometric techniques applied and the way the variables are measured as well as structural changes in economy. In this study we used variables identified in the theories reviewed with the aim of evaluating the potency of the reviewed theory of investment in explaining investment behavior in Nigeria [17].

### 3. METHODOLOGY

This study adopts econometric methodology. Annual data that spans from 1982 to 2020, sourced from World Development Indicators (WDI), and the Central Bank of Nigeria (CBN) statistical bulletin is used for the analysis. Augmented Dickey Fuller (ADF) unit root test was used to study the time series properties of the model and consequently, an Autoregressive Distributed Lag (ARDL) model was estimated.

#### 3.1 Model Specification

The model of this study is based on the various economic theories reviewed in this study which identifies interest rate, inflation, economic output, savings, government expenditure, money supply and stock market performance as the determinants of investment. Consequently, the model of this study is specified as follows;

$$GGCF = F(\text{INT, GDPG, GDSGDP, GGEX, GM2, GMCAP, INF})$$

Where,

GGCF= growth in gross capital formation (rate of growth of new investment)

INT= Interest Rate

GDPG= GDP (Gross Domestic Product) Growth Rate

GDSGDP= gross domestic savings as a percentage of GDP

GGEX= growth in government expenditure

GM2 = growth in broad money supply (M2)

GMCAP= growth in stock market capitalization

INF= Inflation

#### 3.2 Estimation Procedures

##### 3.2.1 Augmented Dickey Fuller (ADF) unit root test

The ADF test for the study is done with the inclusion of an intercept term. This is expressed as follows;

$$\Delta Y_t = \alpha + \delta Y_{t-1} + \phi \Delta Y_{t-1} + u_t$$

Where  $Y_t$  stands for the time series data of interest,  $\Delta$  is the first difference operator, “ $t$ ” is time, “ $t-1$ ” stands for time lag. Greek letters ( $\alpha$ ,  $\delta$ ,  $\phi$ ) are parameters to be estimated and  $u_t$  is error term.

### 3.2.2 Autoregressive Distributed Lag (ARDL) model

Following the ADF unit root test is the estimation of an autoregressive distributed lag model. Here, the dependent variable is expressed as a function of the lag value of the dependent variable and the current and lag values of the explanatory variables. This estimation technique is adopted because of its analytical advantages. The technique can be applied even when variables are not integrated in the same order as in the case of this study and both the long run and short run relationships can be explained using this procedure. It also takes into consideration the effect of lags which are almost inherent in economic behavior.

The general form of the ADRL model is expressed as follows;

$$Y_t = \beta_0 + \beta_1 Y_{t-1} + \beta_2 X_{ti} + \beta_3 X_{t-1} + U_t$$

Where

- $\beta_0$ = constant term
- $Y_t$ =the dependent variable
- $Y_{t-1}$ = lags of the dependent variable
- $X_{ti}$ = the row vector of the explanatory variables of the model
- $X_{t-1}$ = the row vector of the lags of the explanatory variables of the model
- $\beta_{1i}$ ,  $\beta_{2i}$ ,  $\beta_{3i}$  = the model coefficients
- $U_t$  = error term

### 3.2.3 ARDL Error Correction Model (ECM)

The existence of a long run relationship among variables provides the basis to specify economic relationships in an error correction model to track the effect of short run changes in the explanatory variables on the dependent variable. The ARDL error correction model could be expressed as follows;

$$\Delta Y_t = \beta_0 + \beta_1 \Delta Y_{t-1} + \beta_2 \Delta X_{ti} + \beta_3 \Delta X_{t-1} + \gamma ECM_{t-1} + U_t$$

Where  $\Delta$  is the first difference operator,  $ECM_{t-1}$  is the error correction term and  $\gamma$  is the error correction coefficient.

### 3.3 Post Estimation Diagnostics

ARCH heteroscedasticity test, JB normality and LM autocorrelation test are used for heteroscedasticity test, test for normality of the error term of the estimated model, and autocorrelation test respectively. These tests are carried out to ensure that the estimated model meets the assumptions of regression analysis. Absence of heteroscedasticity, normal distribution of the error terms and absence of autocorrelation are the important assumptions of regression analysis. The results indicate whether or not the estimated coefficients of the model are reliable.

## 4. RESULTS AND DISCUSSION

### 4.1 Result

Following the estimation procedures stated earlier, the analytical outcome of our result is presented as follows;

The result of unit root test above shows that variables are stationary at both levels and first difference at 5%. GGCF, GDPG, GM2, GMCAP GGEX and INF are stationary at levels while INT and GDSGDP are stationary at first difference. This justifies the application of ARDL econometric model in analyzing the short run and long run behavior of variables. The ARDL bond test for long run relationship is presented as follows;

The ARDL bond test result above shows that the test statistics of the bond test procedure of 15.85 is greater than the lower and upper bound critical values of the bond test procedure at 5% level of significance. This indicates that the null hypothesis of no long run relationship can be rejected, indicating the existence of a long run relationship between the dependent variable and the explanatory variables. The short run and long run coefficients are presented as follows;

From the estimated ARDL model, the short run error correction coefficient of -0.816 shows the speed of adjustment of the dependent variable to long run equilibrium after a deviation due to changes in the explanatory variables. It shows that 81% of the divergence of the dependent variable from equilibrium due to changes in the explanatory variables is corrected annually. This indicates that it takes approximately 1 year and 3 months for the dependent variable to adjust back to equilibrium.

**Table 1. ADF Test result**

Variables	ADF Stat	Critical Values (5%)	P Value	Remarks
GGCF	-3.415497	-2.951125	0.0173	I(0)
INT	-6.694748	-2.948404	0.0000	I(1)
GDPG	-3.840491	-2.945842	0.0058	I(0)
GDSGDP	-7.625980	-2.948404	0.0000	I(1)
GGEX	-7.261912	-2.945842	0.0000	I(0)
GM2	-3.349311	-2.945842	0.0198	I(0)
GMCAP	-5.877249	-2.951125	0.0000	I(0)
INF	-3.406855	-2.948404	0.0174	I(0)

Source: Author's computation using E-Views

**Table 2. ARDL Bounds test**

Null Hypothesis: No long-run relationships exist		
Test Statistic	Value	K
F-statistic	15.84650	7
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10%	2.03	3.13
5%	2.32	3.5
2.5%	2.6	3.84
1%	2.96	4.26

Source: Author's computation using E-Views

The estimated ARDL coefficients of the explanatory variables shows that lag of growth in gross capital formation (GGCF) (growth rate in new investment), growth in government expenditure (GGEX), growth in broad money supply (GM2) and inflation (INF) are significant determinants of investment in the short run. Growth in government expenditure (GGEX) has a negative effect on growth in gross capital formation (GGCF) (growth rate in new investment). The estimates show that on the average, a 1% growth in government expenditure leads to a 0.25% decrease in new investment. A 1% growth in money supply at zero lag leads to 0.99% increase in new investment while a 1% growth in money supply at one lag leads to a 0.39% decrease in new investment. A 1% increase in inflation at zero lag leads to a 0.5% decrease in new investment and a 1% increase in inflation at one lag also leads to 0.5% decrease in new investment.

Interest rate (INT), GDP growth (GDPG), gross domestic savings (GDSGDP) and growth in stock market capitalization (GMCAP) were not significant in explaining changes in investment in the short run within the period of study. The signs of the coefficient of interest rate and growth in stock market capitalization were positive and

negative respectively which is at variance with theoretical expectations. The coefficients of GDP growth and gross domestic savings were positive in line with theoretical expectation. The adjusted R-square of 0.79 shows that 79% of the changes in investment were explained by changes in the explanatory variables of the model.

In the long run, GDP growth, gross domestic savings, growth in government expenditure, growth in money supply, growth in stock market capitalization and inflation were all significant in explaining changes in investment. The coefficients shows that 1% GDP growth leads to 2.36% growth in new investments, a 1% increase in gross domestic savings leads to 0.28% decrease in new investment. A 1% growth in government expenditure leads to 0.35% decrease in new investment. A 1% growth in broad money supply leads to 0.95% growth in new investment, a 1% growth in stock market capitalization leads to a 1% decrease in the growth of new investment and a 1% increase in inflation leads to 0.37% growth of new investment. Although interest rate is not statistically significant in explaining changes in investment, the coefficient is negative in line with theoretical expectations.

**Table 3. ARDL Cointegrating form**

Dependent Variable: GGCF				
Selected Model: ARDL (2, 1, 1, 1, 2, 2, 2, 2)				
Short Run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
***Δ(GGCF(-1))	0.510025	0.107822	4.730238	0.0003
Δ(INT)	1.254682	1.089861	1.151232	0.2689
Δ(GDPG)	0.866248	0.758739	1.141695	0.2727
Δ(GDSGDP)	0.324573	0.352863	0.919826	0.3732
*Δ(GGEX)	-0.254828	0.124396	-2.048513	0.0597
Δ(GGEX(-1))	0.146777	0.130861	1.121627	0.2809
***Δ(GM2)	0.985196	0.213515	4.614180	0.0004
*Δ(GM2(-1))	-0.392091	0.199123	-1.969094	0.0691
Δ(GMCAP)	-0.088711	0.076811	-1.154936	0.2674
Δ(GMCAP(-1))	0.069008	0.074478	0.926549	0.3699
**Δ(INF)	-0.502753	0.218786	-2.297918	0.0375
*Δ(INF(-1))	-0.503991	0.273130	-1.845240	0.0863
***ECM(-1)	-0.816261	0.171892	-10.566281	0.0000
R-squared	0.913403			
Adjusted R-squared	0.789692			
F-statistic	7.383390			
Prob(F-statistic)	0.000206			
Cointeq = GGCF - (-0.1646*INT + 2.3579*GDPG -0.2832*GDSGDP -0.3507				
*GGEX + 0.9521*GM2 -0.1937*GMCAP + 0.3720*INF -6.7682 )				
Long Run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
INT	-0.164650	0.430129	-0.382792	0.7076
***GDPG	2.357879	0.454793	5.184515	0.0001
**GDSGDP	-0.283170	0.098353	-2.879108	0.0121
*GGEX	-0.350733	0.170785	-2.053644	0.0592
***GM2	0.952096	0.154097	6.178552	0.0000
**GMCAP	-0.193722	0.076437	-2.534387	0.0238
**INF	0.372006	0.172451	2.157166	0.0489
C	-6.768182	6.784034	-0.997663	0.3354

Source: Author's computation using E-Views

\* indicates 10% statistical significant

\*\* indicates 5% statistical significant

\*\*\* indicates 1% statistical significant

**Table 4. Summary of post estimation diagnostic test**

Diagnostic Tests			
<b>Breusch-Godfrey Serial Correlation LM Test:</b>			
F-statistic	0.012920	P Value	0.9872
Obs*R-squared	0.075206	P Value	0.9631
<b>Heteroskedasticity Test: ARCH</b>			
F-statistic	0.655310	P Value	0.5266
Obs*R-squared	1.381335	P Value	0.5012
<b>Normality Test</b>			
Jarque-Bera(JB) Stat.	0.178265	P Value	0.914725

Source: Author's computation using E-Views 9 (2022)

The summary of post estimation test result shows that the P values of the respective post estimation test which are more than the acceptable level of statistical significance, indicates that the null hypothesis of the LM and ARCH test which respectively state that there is no autocorrelation and no heteroscedasticity cannot be rejected. Also, the null hypothesis of



the normality test procedure which states that the error is normally distributed cannot also be rejected. This indicates that there is absence of autocorrelation and absence of heteroscedasticity in the estimated model. It also shows that the error terms are normally distributed. Therefore, the estimated coefficients are reliable because the estimated model meets the underlying assumptions of regression analysis.

## 4.2 Discussion of Findings

The findings of this study shows that growth in new investment in the previous period has a positive and significant effect on the growth of new investment at current periods, indicating that there is an accumulative effect of investment on the growth of new investment. Government expenditure which has a negative effect on investment both in the long and short run could be explained in terms the crowding effect of government expenditure on investment. In Nigeria, there are many trending issues associated with government expenditure which could bring negative effect on investment. These include misappropriation of public funds, inconsistency spending policies and deficit financing.

Money supply has a positive effect on investment in the long and short run. This is in line with theoretical arguments of the monetarist that increase in monetary aggregate cause increase in aggregate demand which includes investment demand. Inflation has significant negative effect on investment in the short run but positive effect in the long run. High prices in the short run limits the quantity of factor services that can be purchased and thus reduce firm's ability to increase investment but it also serves as incentives for firms to increase production by embarking on new investment to take advantage of high prices, hence in the long run it has a positive effect on investment.

Growth in economic output has a significant effect on investment only in the long run. Growth in output indicates boom in the economy where firms make gains allowing them to set aside more funds for new investment. Savings has a significant negative effect on investment in the long run. This indicates that savings in the economy may not have been adequately channeled for productive investment, thus increase in savings reduce the amount of funds available for productive investment. Stock market

capitalization has a significant negative effect on investment only in the long run indicating that stock market performance provides negative real sector investment signals likely because of the poor performance of the stock market over the years. Interest rate has no significant effect on investment in both long and short run although the long run coefficient is negative in line with theoretical expectations. This could be traced to the long history of high interest rate in Nigeria which does not allow most businesses to borrow significant amount of funds for long term investment.

## 5. CONCLUSION AND RECOMMENDATION

### 5.1 Conclusion

From the findings of this study, all explanatory variables in our model are significant determinants of investment either in the short or the long run or both except interest rate. However, all the variables are jointly significant in explaining changes in investment as shown in the result of the F-test. The finding of this study therefore gives credence to most of the various theories reviewed in this article. The findings shows that price stability which is the major goal of monetary policy is consistent with the goal of investment promotion because inflation is a key determinant of investment in the short run and long run, it also shows that growth in monetary aggregate that is consistency with the level of economic activities will boost investment in both short and long run. Therefore, investment in Nigeria can be significantly stimulated through policies because the identified macroeconomic determinants of investment in Nigeria are variables that the policy authorities can influence through policy decisions.

### 5.2 Recommendation

On the basis of the findings of this study, the following recommendations are given;

- i) The findings shows that policies that ease financial intermediation will allow aggregate savings in the economy to be channeled to productive investment
- ii) Government expenditure policies should carry along domestic firms in the execution of government projects will to reduce the crowding out effect of government expenditure and enhance domestic investment.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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